



# Center for Aerospace Technology

## Mission

The Center for Aerospace Technology is a Department within the College of Applied Science and Technology (CAST). Its mission is to obtain and manage projects to enhance the practical education of the students. The major emphasis of CAST's projects is the development and operation of small, low Earth orbiting satellites.

## The Center

The initial work on aerospace projects at Weber State University started in 1982 with the development of a small satellite to be used to demonstrate a method to evaluate the beams on the Federal Aviation Agency secondary radar systems. This satellite called NUSAT 1 (Northern Utah Satellite), a joint project with Utah State University, was the forerunner in a new type of specialized small, simple, and low cost satellite.

The educational and technological innovations associated with NUSAT 1 were so successful, the Center for Aerospace Technology was created to direct

future satellite work.

There are three active projects being managed by CAST:

- WebersAT is a joint project with AMSAT-NA, a scientific, non-profit organization of amateur radio operators that have been active in building small satellites for a number of years. This satellite, one of four small 27 pound satellites equipped with five radio receivers, two transmitters, a color video camera, and other scientific experiments was launched in 1990 on a French Ariane rocket. Currently, this sun synchronous, polar orbiting satellite is successfully performing worldwide educational experimentation.
- JAWSAT or Joint Air Force Academy Weber State Satellite, is a 200 pound, three axis stabilized satellite with a propulsion motor. This satellite will be launched as a secondary payload on an Air Force launch vehicle in 1995. Building a three axis stabilized satellite with the capability to make orbit changes with a small electric pulsed plasma motor is a new step in technology for CAST. The primary payload on this satellite will be an improved camera earth

imaging system, a camera used as a star mapper for altitude determination.

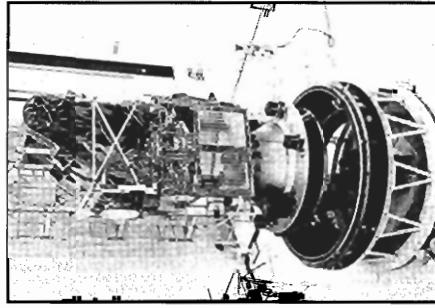
- Phase 3D is a new AMSAT international project to build a thousand pound communication satellite to be launched on the next generation of the French Ariane rocket in 1997. CAST has the major role of building the space frame for this satellite. Weber State University, under the direction of CAST, is the only undergraduate university in the world working on this international project.

## Center Highlights

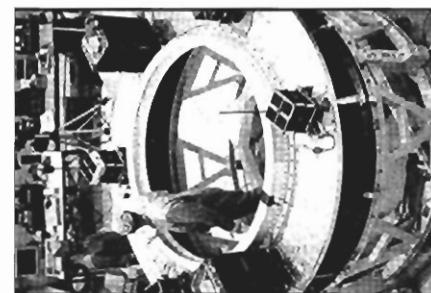
- The development and operation of NUSAT 1, the only undergraduate university built satellite launched from NASA space orbiter.
- The successful launch of WeberSAT in January of 1990, a 27 pound internationally known educational satellite that is a student programmable laboratory in space.
- Through the CAST satellite research, two companies were formed to pursue commercial and military applications of this new technology. A number of commercial contracts have been developed.

For more information, please contact:

Robert Twiggs  
Center for Aerospace Technology  
College of Applied Science & Technology  
Weber State University  
Ogden, Utah 84408-1805  
(801) 626-7272  
(801) 626-7951 fax



Ariane 4 primary and secondary payloads.



Mounting of microsatellites as secondary payload for the Ariane 4 rocket.